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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,702	03/30/2001	Kyoung Sub Kim	8733.308.00	5219

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EXAMINER

DUONG, THOI V

ART UNIT PAPER NUMBER

2871

DATE MAILED: 04/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,702

Applicant(s)

KIM, KYOUNG SUB

Examiner

Thoi V Duong

Art Unit

2871

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the Amendment, Paper No. 11, filed April 14, 2003.

Accordingly, claims 1, 7, 8 and 11 were amended. Currently, claims 1-11 are pending in this application.

Response to Amendment

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first pad in claims 1 and 7 must be shown in Fig. 4 or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the instant claims, it is unclear how the heat is

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being "shut off" by the pad. It appears that the heat still flows into the optical sheets and the liquid crystal panel through the light guide according to Fig. 5.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art (Fig. 2) in view of Plesinger (USPN 5,146,354).

As shown in Fig. 2, Applicant's Prior Art discloses a liquid crystal display (LCD) device, comprising:

a liquid crystal panel 2;

a backlight assembly arranged with the main frame for radiating light onto the liquid crystal panel, comprising: a lamp 20, a lamp housing 18, and a light guide 6; optical sheets 4 on the backlight assembly; and

a panel guide 12 provided between the backlight assembly and the liquid crystal panel to support the liquid crystal panel.

The LCD device further comprises:

a main frame 14 to which the backlight assembly is secured;

a printed circuit board 8 installed under the main frame;

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a tape carrier package 22 mounted with drive integrated circuits for driving the liquid crystal panel and installed between the liquid crystal panel and the printed circuit board;

a top case 16 for surrounding the upper edge of the liquid crystal panel and the side of the main frame; and

a bottom case installed under the printed circuit board and having one side assembled in such a manner to overlap with the top case.

Applicant's Prior Art discloses a LCD device that is basically the same as that recited in claims 1 and 7 except for a pad provided between the panel guide and the backlight assembly for thermally insulating the liquid crystal panel and the optical sheets from a light in the lamp. As shown in Figs. 2 and 3, Plesinger discloses a LCD device comprising a pad 146 made of a heat insulating material and provided between a light guide 104 and a panel guide 118 (col. 4, lines 12-17)) for preventing heat from radiating from a lamp 100 to a liquid crystal panel 112 (col. 5, lines 5-13). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD device of Applicant's Prior Art with the teaching of Plesinger by forming a heat insulating pad provided between the panel guide and the backlight assembly for thermally insulating the liquid crystal panel and the optical sheets from a light in the lamp.

With respect to claims 3 and 4, it is well known in the art that silicon or resin is used as an insulating layer (please see USPN 5,929,950 of Matsuda, col. 3, lines 35-39).

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8. Claims 6 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art (Fig. 2) in view of Plesinger (USPN 5,146,354) as applied to claims 1-5 and 7 and further in view of Kawano et al. (USPN 6,195,141 B1).

The LCD of Applicant's Prior Art (Fig. 2) as modified in view of Plesinger above includes all that is recited in claims 6 and 8-11 except that the second and third pads are not formed on both sides of the printed circuit board. As shown in Fig. 3, Kawano discloses a LCD device comprising a liquid crystal panel 7 and a printed circuit board 6 which is securely held between a lower cover 14 and an upper cover 17 through buffer members 20. Kawano teaches that the buffer members are made of elastic material to prevent shock impact from damaging the connection between the printed circuit board and the liquid crystal panel, and hence the contents of display can be surely display on the liquid crystal panel (col. 2, lines 19-28; col. 3, lines 41-44). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the LCD device of Applicant's Prior Art with the teaching of Kawano by forming a second silicon pad provided between the main frame and the printed circuit board to maintain a distance between the main frame and the printed circuit board and a third silicon pad provided between the printed circuit board and the bottom case to maintain a distance between the printed circuit board and the bottom case so as to secure the printed circuit board in place and also prevent shock from affecting display quality.

Response to Arguments

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9. Applicant's arguments filed 04/14/2003 have been fully considered but they are not persuasive.

In regard to the objection of the drawings, Applicant argued that the pads in claims 1 and 7 are clearly shown in the drawings, as elements 54, 56A, and 56B in Fig. 5, and described in the specification. The Examiner disagrees with the Applicant's remarks because Fig. 5 is only a cross-section of Fig. 4, and Fig. 4 (Top view) needs to show at least how the first pad, which is considered as the main invention of the Applicant, is formed on top of the light guide such that it thermally shuts off the liquid crystal panel and the optical sheets from a light in the backlight assembly.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (703) 305-3492.

Thoi Duong



04/24/2003


TOANTON
PRIMARY EXAMINER